Effects of Pay for Performance on Performance Outcomes in Pennsylvania's Medicaid Managed Care Program

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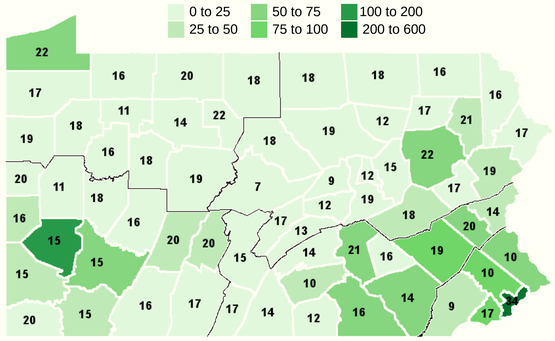
INTRODUCTION

- The nation's health care agenda is focused on achieving the "Triple Aim" to improve quality of care, the health of the population, and simultaneously reduce cost.
- Managed Care (MC) has become the backbone of care delivery for Medicaid programs, the national health insurance program available to individuals with low income. In 2019, 18% of the population in PA (2.3 million individuals) were Medicaid enrollees.
- One intervention being utilized by PA's Medicaid MC program to achieve the Triple Aim is Pay for Performance (P4P). While P4P is a favorite among policymakers, its effectiveness in improving health outcomes is still under investigation.
- Study Aim: To evaluate the role of P4P in improving provider performance within PA's HealthChoices Medicaid MC Program.



- NW – Aetna, AmeriHealth, Gateway, UPMC
- NE – Aetna, AmeriHealth-NE, Geisinger
- SW – Aetna, Gateway, United, UPMC
- LC – Aetna, AmeriHealth, Gateway, United, UPMC
- SE – Aetna, Keystone, Health Partners, United

Fig.1 Map of Pennsylvania separated by HealthChoices coverage areas. Color gradient represents population in thousands enrolled in Medicaid while county numbers indicate percent of population enrolled in Medicaid out of total population.

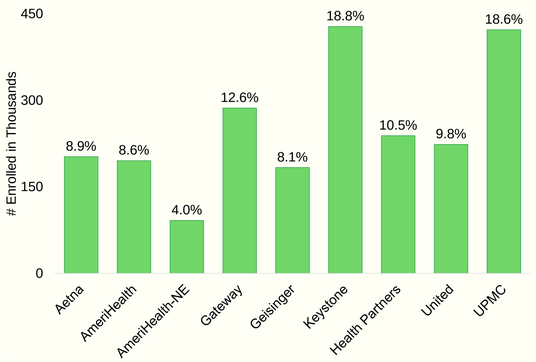


Fig.2 Number of enrollees in each insurance provider. Percentage reflects percent of total Medicaid population enrolled.

METHODS

Data Acquisition

- HealthChoices provided annual performance outcomes for 11 insurers across 16 measures collected between 2011 and 2016
- Retrospective longitudinal analysis using SAS v.9.4

Research Question 1

- Did P4P effectively incentivize insurance providers to obtain better performance outcomes between the years of 2012 and 2016?

Analysis

- Six performance outcomes compared to inflation-adjusted incentive payouts across seven insurance providers (Aetna, AmeriHealth, Gateway, Health Partners, Keystone, United, UPMC)

	Outcome Measure
ADV	Annual Dental Visits
AWC	Adolescent Well-Care Visits
CBP	Controlling High Blood Pressure
CDC_Hb	Comp. Diabetes Monitoring: HbA1c Poor Control
FPC	Frequency of Prenatal Care: >= 81%
PPC_1tri	Prenatal Care in 1st Trimester

Table 1 Abbreviations for 6 outcome measures.

- SEM proposed to test overall effect of incentives on performance outcomes.

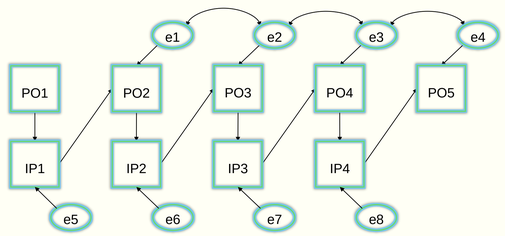


Fig.3 Model depicting casual relationship between performance outcomes (PO) and incentive payouts (IP) over time (1-5). Serially correlated error terms (e1-e4) account for the time-dependent relationship.

Research Question 2

- Can any measures be grouped together to develop more holistic performance targets for insurers?

Analysis

- Three care groups created including all insurers
- Pearson correlations computed for all variables

Care Group		Outcome Measure
Maternal	**AWC**	Adolescent Well-Care Visits
	FPC	Frequency of Prenatal Care: >= 81%
	PPC	Postpartum Care
	PPC_1tri	Prenatal Care in 1st Trimester
	W15	Well Child Visits in the First 15 Mos. Of Life (6 or more)
	W34	Well Child Visits in 3rd, 4th, 5th & 6th Years of Life
Diabetes	**CDC_Hb**	Comp. Diabetes Monitoring: HbA1c Poor Control
	CDC_LDL	Comp. Diabetes Monitoring: LDL Control < 100
	EED	Eye Exam for Patients with Diabetes
	MAN	Comp. Diabetes Monitoring: Medical Attention for Nephropathy
Cancer Screening	**BCS**	Breast Cancer Screening
	CCS	Cervical Cancer Screening

Table 2 Measures selected for Diabetes, Maternal, and Cancer Screening care groups

RESULTS 1

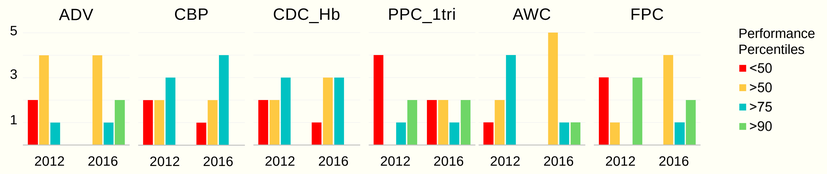


Fig. 4 Between 2012 and 2016 four out of six performance measures improved including controlling high blood pressure, comprehensive diabetes monitoring, prenatal care in the first trimester and annual dental visits. Performance on frequency of prenatal care and adolescent well care visits declined slightly

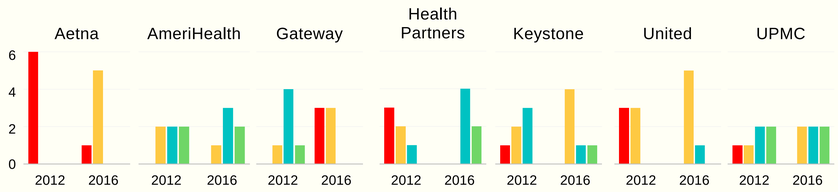


Fig. 5 Between 2012 and 2016 six providers improved their performance as measured by benchmark outcomes. Health Partners was the strongest performer. By contrast, Gateway's performance declined potentially effecting more than 280,000 individuals.

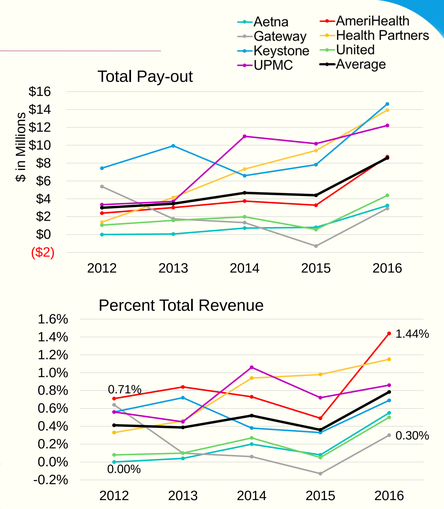


Fig. 6 Total pay-outs increased from 2012 to 2016 (controlling for inflation) except for Adolescent well care visits. Maximum PTR in 2016 = 1.44%.

RESULTS 2

Maternal correlations		Plan	r	p
FPC	PPC_1tri	PA weighted Average	r(6) = .94	< .01
		Gateway	r(7) = .90	< .01
		Health Partners	r(7) = .86	< .05
		Keystone	r(7) = .92	< .01
PPC	PPC_1tri	Gateway	r(7) = .82	< .05
		Health Partners	r(7) = .76	< .05
	AWC	Gateway	r(7) = .89	< .01
		Health Partners	r(7) = .88	< .01
		Keystone	r(7) = -.82	< .05
W34	AWC	AmeriHealth	r(7) = .88	< .01
	W15	United	r(7) = .80	< .05

* All other measures significantly correlated for Health Partners

Table 3 In the maternal care group, FPC was significantly correlated with PPC_1tri at the State level. This effect was also observed within Health Partners, Gateway, and Keystone insurance providers. All other correlations were significant for Health Partners. Within the Gateway health plan, PPC_1tri was also significantly correlated with PPC. Moreover, PPC was correlated with AWC. Keystone had significant negative correlation between PPC and AWC. For United and AmeriHealth plans, W34 was correlated with W15 and AWC, respectively.

Diabetes correlations		Plan	r	p
CDC_Hb	MAN	PA weighted average	r(7) = -.85	< .05
		Aetna	r(7) = -.90	< .01
		Health Partners	r(7) = -.82	< .05
		United	r(7) = -.80	< .05
CDC_Hb	CDC_LDL	Gateway	r(4) = -.97	< .05
		United	r(4) = -.98	< .05
EED	Man	AmeriHealth-NE	r(4) = .98	< .05
		Geisinger	r(4) = .99	< .01

Table 4 For diabetes care, a significant negative correlation was identified between CDC_Hb and MAN at the State level as well as for Aetna, Health Partners, and United insurers. Hb was also negatively correlated with LDL control <100. These correlations were evident in Gateway and United health plans. EED and MAN were positively correlated for AmeriHealth-NE and Geisinger health plans.

Screening correlations		Plan	r	p
BCS	CCS	Gateway	r(7) = -.76	< .05
		Health Partners	r(7) = .90	< .01

Table 5 In the cancer screening group, BCS and CCS was negatively correlated for Gateway. By contrast, BCS and CCS were positively correlated for Health Partners. Gateways performance wavered while Health Partners was consistent over time.

CONCLUSION

- Overall, six measures demonstrated an increased performance while two measures declined. The increased performance by insurers, paired with the increased performance on outcome measures bolsters the likelihood that pay for performance (P4P) has a positive influence on the HealthChoices program.
- Considering that the maximum percent total revenue was 1.44% in 2016, the magnitude of the incentives may not be driving the improvements. Future research should explore the mechanism for improvement, including the possibility that P4P is increasing provider awareness which may be responsible for improved performance.
- While the current study examined individual measures, opportunities exist to consider bundled measures that focus on a disease approach rather than on individual procedures. A "disease" or "population" approach to incentives would allow clinicians to focus more broadly on meaningful outcomes rather than single measures. This in turn could enhance patient experience and improve quality of care.
- Future improvements on the P4P approach may include ongoing conversations with providers to determine ways in which insurers and providers can work collaboratively for improved population health.